

Application/Control Number 09/779,288 filed 2/8/01

### AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the Application:

#### Listing of the Claims

##### 5 Pending Claims

1.- 7. (canceled)

8. (currently amended): The composition according to claim 25 [[24]] further comprising an effective amount of one or more Diesel fuel additives selected from the group consisting of  
10 copolymers of ethylene and vinyl acetate, which enhances cold flow properties of Diesel fuel.

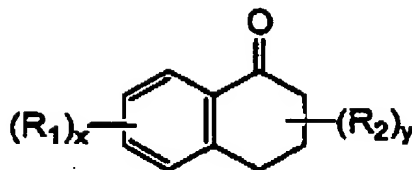
9 - 10 (canceled)

11. (currently amended): The composition according to claim 25 [[26]] wherein at least 5 percent of the oxygen is  
15 contained in cyclic benzylic diketones.

12. ((currently amended): The composition according to claim 13 [[11]] further comprising an effective amount of one or more fuel additives which enhance desired fuel properties.

13. (currently amended): A composition for fuel or  
20 blending component for fuels, which are liquid at ambient conditions, which composition comprises: as a predominant component petroleum distillates which contain less than 15 ppm sulfur, and oxygen-containing organic compounds derived from natural petroleum in amounts such that the oxygen content of the  
25 fuel is in a range from about 0.2 percent to about 10 percent oxygen, with the proviso that at least 10 percent of the oxygen is contained in aryl oxygenates represented by

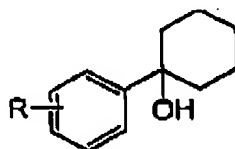
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where  $R_1$  are independently selected from the group consisting of hydrogen and hydrocarbon radicals containing from 1 to about 10 carbon atoms,  $x$  is an integer from 1 to 4;  $R_2$  are independently  
10 selected from the group consisting of hydrogen, hydroxyl, carbonyl oxygen and organic moieties containing from 1 to about 10 carbon atoms, and  $y$  is an integer from 1 to 3, and wherein at least 10 percent of the oxygen is further contained in Type II aryl oxygenates represented by

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where  $R$  is hydrogen or a hydrocarbon radical containing from 1 to about 10 carbon atoms.

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14. (canceled)

15. (withdrawn): A composition for fuel or blending component of fuels which are liquid at ambient conditions, the composition formed by a process which comprises:

25 partitioning by distillation an organic feedstock comprising a mixture of organic compounds derived from natural petroleum, the mixture having a gravity ranging from about 10° API to about 75° API

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to provide at least one low-boiling organic part consisting of a sulfur-lean, mono-aromatic-rich fraction, and a high-boiling organic part consisting of a sulfur-rich, mono-aromatic-lean fraction;

5 contacting a gaseous source of dioxygen with at least a portion of the low-boiling organic part in a liquid reaction medium containing a soluble catalyst system comprising a source of at least one catalyst metal selected from the group consisting of manganese, cobalt, nickel, chromium, vanadium, molybdenum, tungsten, tin, cerium, or mixture thereof, while maintaining the liquid reaction medium substantially  
10 free of halogen and/or halogen-containing compounds, to form a mixture of immiscible phases comprising hydrocarbons, oxygenated organic compounds, water of reaction, and acidic co-products;

separating from the mixture of immiscible phases at least a first organic liquid of low density comprising hydrocarbons, oxygenated  
15 organic compounds and acidic co-products and second liquid of high density which contains at least portions of the catalyst metal, water of reaction and acidic co-products; and

contacting all or a portion of the separated organic liquid with a neutralizing agent thereby recovering a low-boiling oxygenated  
20 product having a low content of acidic co-products.

16. (withdrawn): The composition according to claim 15 wherein at least a portion of the separated organic liquid is contacted with an aqueous solution of a chemical base, and the recovered oxygenated product exhibits a total acid number of less than about 20  
25 mg KOH/g.

17. (withdrawn): The composition according to claim 16 wherein the chemical base is a compound selected from the group consisting of sodium, potassium, barium, calcium and magnesium in the form of hydroxide, carbonate or bicarbonate.

30 18. (withdrawn): The composition according to claim 15 wherein all or at least a portion of the organic feedstock is a product of a hydrotreating process for petroleum distillates consisting essentially

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of material boiling between about 50° C. and about 425° C. which hydrotreating process includes reacting the petroleum distillate with a source of hydrogen at hydrogenation conditions in the presence of a hydrogenation catalyst to assist by hydrogenation removal of sulfur  
5 and/or nitrogen from the hydrotreated petroleum distillate.

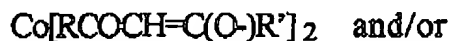
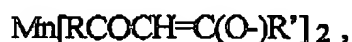
19. (withdrawn): The composition according to claim 15 wherein the catalyst system comprises a source of catalyst metal selected from the group consisting of manganese, cobalt, nickel, chromium, vanadium, molybdenum, tungsten, tin, cerium, or mixture  
10 thereof, in the form of a salt of an organic acid having up to about 8 carbon atoms

20. (withdrawn): The composition according to claim 15 wherein the catalyst system comprises a source of catalyst metal selected from the group consisting of compounds represented by  
15 formula



where M is one or more member of the group consisting of manganese, cobalt, nickel, chromium, vanadium, molybdenum, tungsten, tin and cerium, R and R' are the same or different members of the group  
20 consisting of a hydrogen atom and methyl, alkyl, aryl, alkenyl and alkynyl groups having up to about 20 carbon atoms, and n is 2 or 3.

21. (withdrawn): The composition according to claim 15 wherein the catalyst system comprises a source of catalyst metal selected from the group consisting of compounds represented by  
25 formula



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where R and R' are the same or different members of the group consisting of a hydrogen atom and methyl, alkyl, aryl, alkenyl and alkynyl groups having up to about 20 carbon atoms.

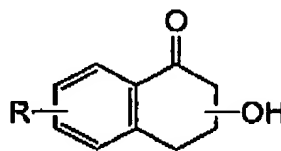
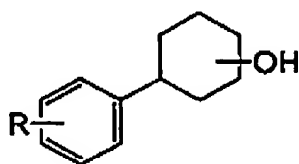
22. (withdrawn): The composition according to claim 15  
5 further comprising an effective amount of one or more fuel additives which enhance desired fuel properties.

23. (canceled)

24. (canceled)

25. (previously presented) A fuel for use in  
10 compression ignition internal combustion engines, comprising: as a predominant component organic distillates derived from natural petroleum, and one or more oxygen-containing organic compound selected from the group consisting of aryl oxygenates of type II and type III represented by

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in amounts such that the oxygen content of the fuel is in a range from about 0.2 percent to about 10 percent oxygen, and wherein the fuel exhibits a suitable flash point of at least 49°C. and contains less than 15 ppm sulfur.

25 26 - 27 (canceled)